

Claims

1. A process of dewatering an aqueous suspension comprising treating the suspension with a dewatering amount of a reverse phase polymer, and subjecting the suspension to a mechanical dewatering to form a cake,
- 5 characterised in that the reverse phase polymer only partially inverts to bring about flocculation and thickening of the suspension, and then fully inverts during further dewatering to form a cake.
2. A process according to claim 1 in which the reverse phase polymer is the sole chemical dewatering treatment aid.
- 10 3. A process according to claim 1 or claim 2 in which the aqueous suspension is sewage sludge.
4. A process according to any of claims 1 to 3 in which the mechanical dewatering employs an apparatus selected from the group consisting of belt press, filter press, screw press and centrifuge.
- 15 5. A process according to any of claims 1 to 4 in which the reverse phase polymer is a water in oil emulsion or a substantially dehydrated polymer in oil dispersion.
6. A process according to any of claims 1 to 5 in which the polymer is cationic.
- 20 7. A process according to any of claims 1 to 6 in which the polymer is formed from at least 30 % by weight cationic monomer or monomers.
8. A process according to any of claims 1 to 7 in which the polymer is selected from the group consisting of cationic polyacrylamides, polymers of dialkyl diallyl ammonium chloride, dialkyl amino alkyl (meth)-acrylates (or salts thereof) and dialkyl amino alkyl (meth)-acrylamides (or salts thereof).
- 25 9. A process according to any of claims 1 to 8 in which the polymer has an intrinsic viscosity of at least 0.5 dl/g, preferably 4 to 10 dl/g.
10. A process according to any of claims 1 to 9 in which the polymer is selected from the group consisting of,

- i) a polymer formed from 50 to 100% by weight methyl chloride quaternary ammonium salt of dimethyl amino ethyl (meth) acrylate and 0 to 20% by weight acrylamide of intrinsic viscosity between 4 and 10 dl/g,
- ii) polyvinyl amidine and polyvinyl amines of intrinsic viscosity greater than 1 dl/g,
- 5 iii) quaternised salts of Mannich addition polyacrylamides of intrinsic viscosity greater than 1 dl/g, and
- iv) poly dimethyl diallyl ammonium chloride of intrinsic viscosity greater than 0.5 dl/g.